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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,879	08/31/2001	Takahiro Nishiyama	P67087US0	9482

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EXAMINER

RHEE, JANE J

ART UNIT

PAPER NUMBER

1772

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/942,879

Applicant(s)

NISHIYAMA, TAKAHIRO

Examiner

Jane J Rhee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Newly submitted claim 21 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claim 21 is a method of manufacturing a hose.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 21 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-11,13-16,18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spurgat in view of Chodha et al. (5985970).

Spurgat discloses a hose of multilayer wall comprising an innermost layer of rubber (col. 3 lines 64-65) and a gas impermeable metallic barrier layer formed in the wall surrounding the innermost layer (col. 3 lines 67-68, col. 4 lines 1-2). Spurgat discloses that the barrier layer is a metal laminated layer formed by having a metal foil held between two resins films (col. 4 lines 11-18). Spurgat discloses that the laminated

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layer is formed by at least a single fold of spiral winding or longitudinal lapping of a tape of a laminated sheet formed by having the foil held between the resin films (col. 4 lines 11-18 and figure 2 number 16a, and col. 4 lines 3-4). Spurgat discloses that the barrier layer is in contact with the innermost layer (col. 3 lines 64-68, col. 4 lines 1-2). Spurgat discloses that the barrier layer forms a part of the wall surrounding the innermost layer and is surrounded by a fiber-reinforced layer (col. 4 lines 35-37). Spurgat discloses that the multilayer wall sequentially comprises the innermost layer, the barrier layer, a fiber reinforced layer and an outer rubber layer (col. 4 lines 35-37).

Spurgat fail to disclose that the rubber material is cured by an agent not containing any metal oxide or sulfur. Spurgat fail to disclose that the rubber material is resistant to hot water and to acid and/or alkali. Spurgat fail to disclose that the rubber material or the hose as a whole has an electrical resistance of at least $10^6 \Omega \text{ cm}$. Spurgat fail to disclose that the material is selected from among ethylene-propylene-diene terpolymer rubber (EPDM), ethylene-propylene copolymer rubber (EPM), silicone-modified EPDM, silicone-modified EPM, fluororubber (FKM) and butyl rubber. Spurgat fail to disclose that the rubber material is peroxide-cured EPDM or EPM free of zinc oxide. Spurgat fail to disclose that the multilayer wall comprises an intermediate butyl rubber layer. Spurgat fail to disclose that the foil has a thickness of 7 to 50um while the resin film has a thickness of 5 to 200um. Spurgat fail to disclose that the innermost layer and the barrier layer or every two adjoining layers are bonded to each other with an adhesive strength of at least 5kgf/inch. Spurgat fail to disclose that the wall has an inside diameter of 5 to 50 mm. Spurgat fail to disclose that the wall has a pair of ends

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each connected with a stainless steel pipe. Spurgat fail to disclose that wherein toward each end thereof, the wall has an inner surface treated for adhesion to the outer surface of the stainless steel pipe and the inner and outer surfaces are fasten by a sleeve.

Chodha et al. teaches peroxide cured EPDM (col. 1 lines 48-49) which is a rubber material that is by an agent not containing any metal oxide or sulfur for fabricating hoses (col. 1 line 30) for the purpose of yielding improved mechanical properties (col. 2 lines 61-63).

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Spurgat with peroxide cured EPDM which is a rubber material that is by an agent not containing any metal oxide or sulfur for fabricating hoses in order to yield improved mechanical properties (col. 2 lines 61-63).

Since Chodha et al. discloses the same rubber material desired by the applicant it is inherent that the rubber material is resistant to hot water and to acid and/or alkali and that the rubber material or the hose as a whole has an electrical resistance of at least $10^6 \Omega \text{ cm}$.

Spurgat discloses that the barrier layer is 0.001 to 0.003 inches thick (col. 4 line 15), it would have been obvious to one having ordinary skill in the art at the time the invention was made to obtain a foil with a thickness of 7 to 50um while the resin film has a thickness of 5 to 200um since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

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Spurgat discloses that the heat activated adhesive bonds the barrier material together as a continuous high permeability layer within the resultant cured and formed hose (col. 4 lines 66-68, col. 5 line 1), it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to obtain an adhesive strength of at least 5kgf/inch, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

As to the wall with an inside diameter of 5 to 50 mm, it would have been an obvious matter of design choice to have a hose with an inside diameter of 5-50mm, since such a modification would have involved a mere change in size of a component. A change of size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

As to the wall having a pair of ends connected with a stainless steel pipe and wherein toward each end thereof, the wall has an inner surface treated for adhesion to the outer surface of the stainless steel pipe and the inner and outer surface are fastened by a sleeve, it has been held that a recitation with respect to the manner in which the claimed article is intended to be employed does not differentiate the claimed article from the prior art article satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

3. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spurgat and Chodha et al. in view of Kitami et al. (4881576).

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Spurgat and Chodha et al. teaches the hose described above. Spurgat and Chodha et al. fail to disclose that the multilayer wall comprises an intermediate butyl rubber layer. Kitami et al. teaches that the multilayer wall comprises an intermediate butyl rubber layer (figure 1 number 22 and col. 2 line 60) for the purpose of providing a hose, which excels in impermeability to gas and to moisture, flexibility and mechanical strength (col. 1 lines 40-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided Spurgat with an intermediate butyl rubber layer in order to provided a hose which excels in impermeability to gas and to moisture, flexibility and mechanical strength (col. 1 lines 40-41) as taught by Kitami et al.

Response to Arguments

Applicant's arguments with respect to claims 1-16 and 18-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jane J Rhee whose telephone number is 703-605-4959. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 703-308-4251. The fax phone numbers for


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the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Jane Rhee
May 30, 2003



HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

5/30/03